DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Elizabeth E. Kim (Reg. No. 43,334) on 17 June 2008.

The application has been amended as follows:

Claim 1, line 13, --one or more-- has been inserted before "sensors".

Allowable Subject Matter

2. Claims 1, 4, 5, 7-16, 18, and 20-22 are allowed.

3. The following is an examiner's statement of reasons for allowance:

With respect to claims 1, 4, 5, 7-15, the prior art discloses a method for optimizing radiographic image quality of a single x-ray image of an object that is produced by irradiating the object with x-rays form an x-ray apparatus during an x-ray exposure period, the x-ray apparatus including an x-ray source configured to generate x-rays directed towards and through the object and an x-ray imaging system configured to receive x-rays that have been emitted from the x-ray source and have passed through the object, the x-ray source including an electron source and an x-ray emissive target, the method comprises: step A. determining a first operating voltage level

kVp_0 of the x-ray source for initial operation of the x-ray apparatus. However, the prior art did not disclose step B. during a first sampling interval Δt_1 in the beginning of an x-ray exposure period, operating the x-ray source at the first voltage level kVp_0 and using one or more sensors to detect x-rays that have passed through a portion of the object during the interval Δt_1, the one or more sensors disposed between the object and the x-ray imaging system, wherein the first sampling interval Δt_1 is relatively small compared to the x-ray exposure period, wherein the x-ray exposure period is a length of time during which the object must be irradiated with the x-rays in order for the single x-ray image of the object to be generated as claimed.

With respect to claims 16, 18, and 20-22, the prior art disclose an x-ray imaging apparatus that comprises: an x-ray source including an electron source configured to emit electrons and an x-ray emissive target configured to emit x-rays from a focal spot within the target in response to incident electrons that have been accelerated from the electron source toward the target at an operating voltage of the x-ray source; an x-ray imaging system configured to receive x-rays that have been emitted from the x-ray source and that have passed through an object, and to generate an image of the object from the received x-rays; one or more sensors disposed between the object and the x-ray imaging system, the sensor being configured to detect x-rays from the x-ray source that have traversed the object; a processor configured to determine an operating voltage level of the x-ray source; and a controller configured to adjust the operating voltage of the x-ray source. However, the prior art fails to disclose a processor that is configured to determine a first operating voltage level kVp_0 of the x-ray source for an initial operation of the x-ray apparatus during a first sampling period Δt_1, the processor being further configured to calculate, after the first sampling period Δt_1, a second operating voltage level kVp_1 of the x-ray

source by processing the output signals generated by the sensors during the first sampling period, the processor being further configured to calculate, after the second sampling period Δt_2, an optimal operating voltage level kVp_2 of the x-ray source by processing the output signals generated by the sensors during the second sampling period as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Amendment

4. Applicants' amendments filed 13 May 2008 with respect to claims 1, 4, 5, 7, 8, and 15 have been fully considered. The rejection of claims 1, 4, 5, 7, 8, and 15 under 35 U.S.C. 102(e) as being anticipated by Alving *et al.* (U. S. Patent No. 6,594,339 B1) has been withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 9:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Allen C. Ho/
Primary Examiner
Art Unit 2882

17 June 2008